623.2 HORIZONTAL DIRECTIONAL DRILLING

Horizontal Directional Drilling is another trenchless technology method for placing carrier or casing pipe under an existing highway.

623.2A BACKREAMER DETECTION

JANUARY 1, 2000, sonde detection on the backreamer is required. **(see Appendix "E".)**

623.2B DOCUMENTATION OF PROJECTED PATH

The permittee shall provide a copy of the bore-log showing horizontal and vertical alignment (depth). A bore-log shall be kept for both the pilot bore and the reaming process. These records shall be provided to the Department's representative daily. The bore-log shall depict a plan profile of the actual bore path.

623.2C SAFETY REQUIREMENTS

All drilling units **should be equipped with** an electrical strike safety package. This package at minimal **should contain** a warning sound alarm and shall be tested upon setup of the job.

Protective safety gear IS REQUIRED for all members of the contractor's crew, (Die-Electric boots are required. At all HDD operation sites, Safety electric overshoes **shall** be worn by all member's of the crew and by the inspector, at all times.

623.2D PERMIT APPLICATION SUBMITTAL

All utilities that are installed by HDD shall provide "As-Builts" upon completion of the job.

The permit application package should contain the following information in support of the permit application; construction plan, site layout plan, project schedule, communication plan, safety procedures, emergency procedures, company experience record, contingency plan and a drilling fluid management plan in support of the permit application.

1. Location of entry and exit point.
2. Equipment and pipe layout areas.
3. Proposed drill path alignment (both plan & profile view).
4. Location, elevations and proposed clearances of all utility crossings and structures.
5. Proposed Depth of cover.
6. Soil analysis **.
7. Product material (HDPE/steel), length, diameter-wall thickness, reamer diameter.
8. Detailed pipe calculations, confirming ability of product pipe to withstand installation loads and long term operational loads including H20.
9. Proposed composition of drilling fluid (based on soil analysis) viscosity and density.
10. Drilling fluid pumping capacity, pressures, and flowrates proposed.